

1 **WASHINGTON STATE DEPARTMENT OF ECOLOGY**
2 **POST OFFICE BOX 47600**
3 **OLYMPIA, WASHINGTON 98504-7600**
4
5

6 **IN THE MATTER OF**

]

7 **NO. PSD-01-01 AMENDMENT 1**

8 **TransAlta Centralia Generation LLC**

]

9 **913 Big Hanaford Road**

]

10 **FINAL APPROVAL**

11 **Centralia, Washington 98531**

]

12 **OF PSD APPLICATION**
13

14 Pursuant to the United States Environmental Protection Agency (EPA) regulations for the
15 Prevention of Significant Deterioration (PSD) set forth in Title 40, Code of Federal Regulations,
16 Part 52 and regulations set forth in the Washington Administrative Code 173-400-141 and based
17 upon the complete Notice of Construction Application (NOC) submitted by TransAlta
18 Generation LLC on January 9, 2001, the additional information submitted on January 30, 2001,
19 and March 26, 2001, the amendment submitted on August 16, 2002, and the technical analysis
20 performed by the Department of Ecology (the department), the department now finds the
21 following:
22
23

24 **FINDINGS:**
25

- 26 1. TransAlta Centralia Generation LLC proposes to construct and operate an electric power
27 generation facility in Centralia, Washington.
28
- 29 2. This project consists of four, natural gas fired, combined cycle turbines with the capability of
30 generating 188 megawatts (MW) of power and an 80 MW steam turbine for a total of 268
31 MW. In addition, an emergency diesel generator "Black Stop Generator" and an auxiliary
32 boiler are part of this project.
33
- 34 3. Amendment 1 allows the originally proposed 3,500 pounds per hour (lb/hr) Cleaver Brooks
35 Boiler to be replaced with a 17,250 lb/hr Superior Boiler Works.
36
- 37 4. This project is subject to the following New Source Performance Standards (NSPS): Subpart
38 Db (Standards of Performance or Industrial – Commercial – Institutional Steam Generating
39 Units); Subpart Dc (Standards of Performance or Industrial – Commercial – Institutional
40 Steam Generating Units); and Subpart GG (Standards of Performance for Stationary Gas
41 Turbines).
42
- 43 5. TransAlta Centralia Generation LLC is one of the 28 source categories subject to PSD
44 permitting if potential emissions of a criteria pollutant exceed 100 tons per year.
45

- 46 6. TransAlta Centralia Generation LLC is a major stationary source that emits more than 100
47 tons of pollutants per year.
- 48
- 49 7. This project qualifies as a major modification because nitrogen oxides (NO_x), particulate
50 matter finer than 10 microns in diameter (PM₁₀) and particulate matter (PM), have
51 “significant” emissions increases that are greater than 40 tons per year, 15 tons per year and
52 25 tons per year, respectively.
- 53
- 54 8. The emissions of all other air pollutants from the proposed modification are subject to review
55 under SWCAA 400 and Chapter 173-460 WAC by the Southwest Clean Air Agency.
- 56
- 57 9. TransAlta Centralia Generation LLC has elected to take a federally enforceable limit on the
58 number of hours of operation the Black Stop Generator will operate.
- 59
- 60 10. The project will result in a potential to emit up to 111.4 tons per year of NO_x.
- 61
- 62 11. This amendment allows for a 0.38 lb/hr and 1.63 tons per year increase in NO_x emissions.
- 63
- 64 12. Water injection and Selective Catalytic Reduction has been determined to be Best Available
65 Control Technology (BACT) for the control of NO_x emissions from the turbines.
- 66
- 67 13. Selective Catalytic Reduction has been determined to be BACT for the control of NO_x
68 emissions from the duct burners.
- 69
- 70 14. Proper operation has been determined to be BACT for the control of NO_x emissions from the
71 Black Stop Generator.
- 72
- 73 15. Proper operation has been determined to be BACT for the control of NO_x emissions from the
74 Auxiliary boiler.
- 75
- 76 16. The project will result in a potential to emit up to 63.5 tons per year of particulate matter
77 (PM) and particulate matter finer than 10 microns in diameter (PM₁₀).
- 78
- 79 17. This amendment allows for a 0.13 lb/hr and 0.56 tons per year increase in PM and PM₁₀
80 emissions.
- 81
- 82 18. Good combustion practices in conjunction with pipeline quality natural gas has been
83 determined to be BACT for the control of PM and PM₁₀ emissions from the turbines.
- 84
- 85 19. Good combustion practices in conjunction with pipeline quality natural gas has been
86 determined to be BACT for the control of PM and PM₁₀ emissions from the duct burners.
- 87
- 88 20. The project is located in an area that has been designated Class II for the purposes of PSD
89 evaluation. The nearest Class I Areas are identified in Table 1 below:
- 90

Class I Area	Distance (km)
Mount Rainier, National Park	72.5
Olympic, National Park	89.9
Goat Rocks, Wilderness Area	98.1
Mount Adams, National Wilderness Area	110.7
Alpine Lake, Wilderness Area	134.6

TABLE 1

21. The project is located in an area that is currently designated in attainment for all national air quality standards and all state air quality standards.
22. The ambient impacts of the proposed increase in emissions were determined with the EPA's *CALPUFF* model with *Industrial Source Complex (ISC)* formatted data.
23. Table 2 below identifies the modeling results as compared to the Modeled Significance Level (MSL):

Pollutant	Averaging Period	Maximum Concentration ($\mu\text{g}/\text{m}^3$)		MSL ($\mu\text{g}/\text{m}^3$)
		Olympic NP	Mount Rainier NP	
NO ₂	Annual	0.003	0.005	0.1
PM ₁₀	24-hour	0.0555	0.0858	0.3
PM ₁₀	Annual	0.00783	0.0106	0.2

TABLE 2

24. The project will have no significant impact on ambient air quality.
25. The project will not have a noticeable effect on industrial, commercial, or residential growth in the Centralia area.
26. There will be three days per year when the visibility will be impaired by more than five percent, but less than ten percent, at the Mount Rainier National Park.
27. The department finds that all requirements for PSD have been satisfied. Approval of the PSD application is granted subject to the following conditions.

APPROVAL CONDITIONS:

1. The combustion turbines, duct burners and auxiliary boiler shall be fueled by pipeline quality natural gas.
2. The Black Stop Generator shall not operate for more than 500 hours per year on a 12-month rolling total.

- 122
123 3. Emissions of nitrogen oxides (NO_x) from each heat recovery steam generator (HRSG)
124 exhaust stack shall not exceed 3.0 parts per million on a dry volumetric basis (ppmdv) over a
125 three hour average when corrected to 15.0 percent oxygen and 6.33 pounds per hour.
126 Combined emissions of NO_x from all four, heat recovery steam generators shall not exceed
127 23.1 pounds per hour over a twenty-four hour period. Initial compliance shall be measured in
128 accordance with 40 CFR 60 Subpart GG and 40 CFR 60 Appendix A Method 20, except that
129 the instrument span shall be reduced as appropriate.
130
- 131 4. Emissions of NO_x from the auxiliary boiler shall not exceed 0.025 lb/MMBtu and 2.2 tons
132 per year on a 12-month rolling summation calculated once per month. Initial compliance
133 shall be measured in accordance with 40 CFR 60 Appendix A, Method 7E.
134
- 135 5. Emissions of NO_x from the Black Stop Generator shall not exceed 32.2 lb/hr annual average
136 and 8.0 tons per year on a 12-month rolling summation calculated once per month. Initial
137 compliance shall be measured in accordance with 40 CFR 60 Appendix A Method 7E.
138
- 139 6. Emissions of particulate matter (PM) from each heat recovery steam generator (HRSG)
140 exhaust stack shall not exceed 0.009 lb/MMBtu and 4.1 lbs. per hour. Combined emissions
141 of PM from all four, heat recovery steam generators shall not exceed 14.3 pounds per hour.
142 Initial compliance with the PM limit shall be measured in accordance with 40 C.F.R. Part 60
143 Appendix A Reference Method 5, 40 C.F. R. Part 51 Appendix M Reference Method 201 or
144 201A, or an approved alternative method. Additionally, 40 C.F.R. 51 Appendix M
145 Reference Method 202 shall be used to measure condensable particulate matter.
146
- 147 7. Emissions of PM from the auxiliary boiler shall not exceed 0.01 lb/MMBtu and 0.7 tons per
148 year. Initial compliance with the PM limit shall be measured in accordance with 40 C.F.R.
149 Part 60 Appendix A Reference Method 5, 40 C.F. R. Part 51 Appendix M Reference Method
150 201 or 201A, or an approved alternative method. Additionally, 40 C.F.R. 51 Appendix M
151 Reference Method 202 shall be used to measure condensable particulate matter.
152
- 153 8. Emissions of PM from the Black Stop Generator shall not exceed 0.94 lb/hr averaged over 24
154 hours. Initial compliance with the PM limit shall be measured in accordance with 40 C.F.R.
155 Part 60 Appendix A Reference Method 5, 40 C.F. R. Part 51 Appendix M Reference Method
156 201 or 201A, or an approved alternative method. Additionally, 40 C.F.R. 51 Appendix M
157 Reference Method 202 shall be used to measure condensable particulate matter.
158
- 159 9. Emissions of particulate matter finer than 10 microns in diameter (PM₁₀) from each heat
160 recovery steam generator (HRSG) exhaust stack shall not exceed 0.009 lb/MMBtu and 4.1
161 lbs. per hour. Combined emissions of PM₁₀ from all four, heat recovery steam generators
162 shall not exceed 14.3 pounds per hour. Initial compliance with the PM₁₀ limit shall be
163 measured in accordance with 40 C.F.R. Part 60 Appendix A Reference Method 5, 40 C.F. R.
164 Part 51 Appendix M Reference Method 201 or 201A, or an approved alternative method.
165 Additionally, 40 C.F.R. 51 Appendix M Reference Method 202 shall be used to measure
166 condensable particulate matter.
167

10. Emissions of PM₁₀ from the auxiliary boiler shall not exceed 0.01 lb/MMBtu and 0.7 tons per year. Initial compliance with the PM₁₀ limit shall be measured in accordance with 40 C.F.R. Part 60 Appendix A Reference Method 5, 40 C.F. R. Part 51 Appendix M Reference Method 201 or 201A, or an approved alternative method. Additionally, 40 C.F.R. 51 Appendix M Reference Method 202 shall be used to measure condensable particulate matter.
11. Emissions of PM₁₀ from the Black Stop Generator shall not exceed 0.94 lb/hr averaged over 24 hours. Initial compliance with the PM₁₀ limit shall be measured in accordance with 40 C.F.R. Part 60 Appendix A Reference Method 5, 40 C.F. R. Part 51 Appendix M Reference Method 201 or 201A, or an approved alternative method. Additionally, 40 C.F.R. 51 Appendix M Reference Method 202 shall be used to measure condensable particulate matter.
12. Opacity from each heat recovery steam generator (HRSG) exhaust stack shall not exceed 5%, averaged over 6 consecutive minutes as measured by 40 CFR 60 Appendix A Method 9.
13. Compliance with Approval Condition 1 shall be monitored by affirming that only natural gas was burned.
14. Compliance with Approval Condition 2 shall be monitored by installing and using a nonresetable time totalizer to measure the hours of generator operation.
15. Compliance with the NO_x emission limit from each Heat Recovery Steam Generator (HRSG) exhaust stack in Approval Condition 3 will be monitored by a Continuous Emission Monitor (CEM) for NO_x and oxygen (O₂) meeting the performance specifications of 40 C.F.R. Part 60, Appendix B and quality control/quality assurance requirements of 40 C.F.R. Part 60, Appendix F.
- 15a. TransAlta shall develop and submit for Ecology's approval a compliance plan for the NO_x emission limit from the combined heat recovery steam generator (HRSG) exhaust stacks.
16. Compliance with Approval Conditions 4, 6, 7, 9 and 10 will be monitored by source testing for NO_x and PM₁₀ (filterable as well as condensable) from each stack (except for NO_x from the four HRSG exhaust stacks). Source testing shall be conducted once every two calendar years or 500 hours of operation, whichever is longer. Source testing for these parameters is to coincide with the Relative Accuracy Test Audit required for each installed CEM.
17. Compliance with Approval Condition 12 will be monitored by monthly observations by a certified visible emissions observer.
18. The short-term NO_x emission concentrations (ppm) and mass emission rates (lbs/hr) do not apply during startup and shutdown periods. Emissions during startup and shutdown shall be counted towards compliance with the annual emission limits and shall be based upon vendor recommendations, source data, or other acceptable method of measuring excess emissions. The startup period ends when one hour has elapsed after fuel was combusted by the turbine.

- 213 19. Within 180 days after initial startup, TransAlta Centralia Generation LLC shall conduct
214 performance tests for NO_x and PM₁₀ from each turbine, the Black Stop Generator and the
215 auxiliary boiler to be performed by an independent testing firm. A test plan shall be
216 submitted to the Southwest Clean Air Agency and the department for approval at least 30
217 days prior to testing.
218
- 219 20. TransAlta Centralia Generation LLC shall report the following monitoring data to the
220 Southwest Clean Air Agency and the department. It will be no longer necessary to report to
221 the department when PSD compliance and enforcement has been delegated to the Southwest
222 Clean Air Agency or the Southwest Clean Air Agency has issued a Title V permit.
223
- 224 a) Submit the performance test data from the initial performance test and the performance
225 evaluation of the CEM's using the applicable performance specifications in 40 C.F.R.
226 Appendix B.
227
- 228 b) Submit a report within 30 days of the end of each quarter, or on another approved
229 reporting schedule, and in the format approved by the department, including the following:
230
- 231 1) Calendar date,
232 2) Average hourly NO_x emission rates,
233 3) Identification of any days for which NO_x data were not obtained, including
234 reasons for not obtaining sufficient data and description of corrective
235 actions taken.
236
- 237 c) In addition, each monthly report shall include:
238
- 239 1) Days for which data was not collected,
240 2) Reasons for which data was not collected,
241 3) Identification of times when the pollutant concentration exceeds span of the CEM,
242 4) Description of any modifications to the CEM system that could affect the ability
243 of the system to comply with performance specifications 2 or 3, and
244 5) Results of any CEM drift tests.
245
- 246 d) In addition, TransAlta Centralia Generation LLC shall maintain monitoring records on site
247 for at least five years, and shall submit:
248
- 249 1) Excess emission reports to the department and Southwest Clean Air
250 Agency as appropriate, and
251 2) Results of any compliance source tests.
252
- 253 21. Within 90 days of startup, TransAlta Centralia Generation LLC shall identify operational
254 parameters and practices that will constitute proper operation of the Black Stop Generator
255 and good combustion practices for the turbines and duct burners. These operational
256 parameters and practices shall be included in an Operation and Maintenance manual (O&M)

manual for the facility. The O&M manual shall be maintained by TransAlta Centralia Generation LLC and shall be available for review by state, federal and local agencies.

22. Any activity which is undertaken by the company or others in a manner which is inconsistent with the application and this determination shall be subject to enforcement under the applicable regulations.

23. Access to the source by the Environmental Protection Agency, state, and local regulatory personnel shall be permitted upon request for the purposes of compliance assurance inspections. Failure to allow such access is grounds for an enforcement action.

24. This approval shall become invalid if construction of the project is not commenced within eighteen (18) months after receipt of the final approval, or if construction of the facility is discontinued for a period of eighteen (18) months, unless TransAlta Centralia Generation LLC extends the 18-month period upon satisfactorily showing that an extension is justified, pursuant to 40 C.F.R. 52.21(r)(2) and applicable EPA guidance.

Prepared by:

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DATE:_____